

IN THE ABSTRACT

Please replace the present abstract with the following:

ABSTRACT OF THE DISCLOSURE

Methods, manufactures, machines and compositions are described for nanotransfer and nanoreplication using deterministically grown sacrificial nanotemplates. A method includes depositing a catalyst particle on a surface of a substrate to define a deterministically located position; growing an aligned elongated nanostructure on the substrate, an end of the aligned elongated nanostructure coupled to the substrate at the deterministically located position; seating the aligned elongated nanostructure with a conduit material; removing a portion of the conduit material to expose the catalyst particle; removing the catalyst particle; and removing the elongated nanostructure to define a nanocouduit. An apparatus includes a substrate and a nanoconduit material coupled to a surface of the substrate, where the substrate defines an aperture and the nanoconduit material defines a nanoconduit that is i) contiguous with the aperture and ii) aligned substantially non-parallel to a plane defined by the surface of the substrate. An apparatus includes a substrate and a nanoreplicant structure coupled to a surface of the substrate.